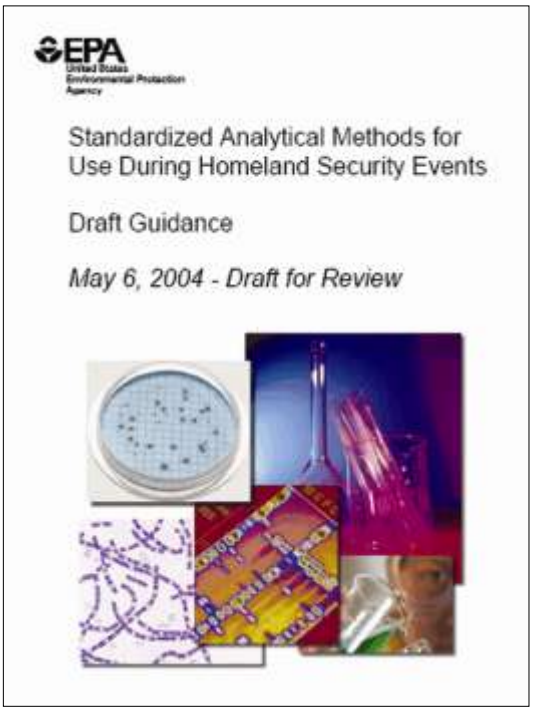
TECHNICAL BRIEF

SAM: Standardized Analytical Methods for Use During Homeland Security Events

The U.S. EPA's National Homeland Security Research Center (NHSRC), in conjunction with the EPA's Laboratory Capacity and Capability Committee, has developed a list of Standardized Analytical Methods (SAM) to be used by environmental laboratories in analyzing biological and chemical samples associated with threats to homeland security. SAM provides standardized analytical methods to measure specific contaminants that may be associated with future terrorist attacks.



By standardizing the methods used to analyze samples among laboratories, SAM potentially shortens critical response times in national emergencies by reducing confusion associated with interpreting analytical results. SAM facilitates the analysis of large numbers of environmental samples in a short time, greatly improves the process of validating and analyzing sample data, and improves evaluating the effectiveness of decontamination efforts.

A Product of Collaboration

SAM is the product of an NHSRC-sponsored workgroup, consisting of experts from across EPA and its sister agencies, including the Centers for Disease Control and Prevention, Food and Drug Administration, Department of Homeland Security, Federal Bureau of Investigation, Department of Defense, U.S. Department of Agriculture, and the U.S. Geological Survey. Their goal was to develop a set of standardized analytical methods for use by environmental laboratories in analyzing contaminants used in homeland security incidents.

Analyzing the Threat

The primary objective of this effort was not to identify the "best" method, but rather to have a balanced approach between leveraging existing techniques and methodologies and providing consistent analytical results.

Thus far, SAM has procedures to identify and measure approximately 120 priority contaminants that may be used in future terrorist attacks. A first draft of SAM, containing summary information on the selected methods and tables for chemical and biological contaminants, was prepared in May 2004 for internal review and in July 2004 for external review, with the final document available in early Fall 2004.

Future initiatives for this project may include the development and validation of standard operating procedures (SOPs), identification of new and improved technologies, development of training programs and supporting guidance, and expanding SAM to address other critical response phases.

Ultimately, these procedures will be instrumental in assisting state and local government laboratories in preparing to analyze samples associated with homeland security events. The SAM workgroup will

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continue to work with EPA program offices, federal and state agencies to identify common gaps in research and prioritize additional activities. Updates are scheduled to be published annually.

For more information, visit the NHSRC Web site at www.epa.gov/nhsrc.

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June 30, 2004
EPA/625/R-06/009